

- III. "On Parts of the Skeleton of *Meiolania platyceps* (Ow.)."
By Sir RICHARD OWEN, K.C.B., F.R.S., &c. Received March
29, 1887.

(Abstract).

The subjects of the present paper are additional fossil remains of *Meiolania platyceps* from Lord Howe's Island, transmitted to the British Museum since the author's previous paper on the subject. Additional cranial characters are defined and illustrated by drawings of more or less perfect specimens of the skull, of vertebræ of the neck, trunk, and tail, of limb-bones, and portions of the dermal skeleton.

The author sums up the affinities, deducible from the above parts of the skeleton, to the orders *Chelonina* and *Sauria*, with grounds for the conclusion that the genera *Megalanina* and *Meiolania* are more nearly akin to the Saurian division of the class *Reptilia*, in which he proposes to refer those extinct genera to a sub-order called *Ceratosauria*.

- IV. "Some Applications of Dynamical Principles to Physical Phenomena. Part II." By J. J. THOMSON, M.A., F.R.S.,
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Experimental Physics in the University of Cambridge.
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(Abstract.)

This is a continuation of a paper with the same title published in the 'Phil. Trans.,' 1885, Part II. In the first paper dynamical principles were applied to the subjects of electricity and magnetism, elasticity and heat, to establish relations between phenomena in these branches of physics. In this paper corresponding principles are applied to chemical and quasi-chemical processes such as evaporation, liquefaction, dissociation, chemical combination, and the like.

Many of the results obtained in this paper have been or can be obtained by means of the Second Law of Thermodynamics, but one of the objects of the paper is to show that there are other ways of attacking such questions, and that in many cases such problems can be solved as readily by the direct use of dynamical principles as by the Second Law of Thermodynamics.

A great deal has been written on the connexion between the Second Law of Thermodynamics and the principle of Least Action; some of these investigations are criticised in the first part of the